

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Mallikarjun Chadalapaka	§	Art Unit:	2152
		§		
Serial No.:	10/666,174	§		
		§	Examiner:	Thomas J. Dailey
Filed:	September 18, 2003	§		
		§		
For:	Method and Apparatus for	§	Atty. Dkt. No.:	200312982-1
	Acknowledging a Request for	§		(HPC.0563US)
	Data Transfer	§		

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Commissioner for Patents

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APPEAL BRIEF PURSUANT TO 37 C.F.R § 41.37

Sir:

The final rejection of claims 1-23 is hereby appealed.

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, L.P.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF THE CLAIMS

Claims 1-23 have been finally rejected and are the subject of this appeal.

Date of Deposit:	<u>June 30, 2008</u>
I hereby certify under 37 CFR 1.8(a) that this correspondence is being electronically transmitted to the U.S. Patent Office on the date indicated above.	
<u>Ginger Yount</u>	
Ginger Yount	

IV. STATUS OF AMENDMENTS

The Amendment after final rejection dated January 28, 2008 has been entered, as indicated by the Advisory Action dated April 9, 2008. Entry of this Amendment has overcome the rejection under 35 U.S.C. § 101, and the rejection under § 112, ¶ 2 of claim 23, as indicated by the Advisory Action.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Independent claim 1 recites an apparatus for acknowledging a data transfer, comprising:

- a processor configured to transfer data according to a plurality of protocols of a protocol stack comprising:

- a first protocol (Fig. 3:310, 324) for initiating a request for a data transfer (Spec., p. 12, ¶ [0027]); and

- a second protocol (Fig. 3:312, 326) for:

- receiving the request for the data transfer from the first protocol (Spec., p. 15, ¶ [0033]);

- determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer (Spec., p. 15, ¶ [0034]);

sending a performance request corresponding to the request for data transfer to a third protocol (Spec., p. 19, ¶¶ [0041]-[0042]); and

if the request for data transfer does contain a request for acknowledgement of the completion of the data transfer, setting a variable in memory to wait for an event to correspond to the completion of the request for data transfer and sending an acknowledgement to the first protocol upon the occurrence of the event (Spec., p. 17, ¶ [0038]; p. 18, ¶ [0040]).

Independent claim 8 recites a network, comprising:

a plurality of systems (Fig. 3:302, 304), at least one of the plurality of systems comprising a protocol stack (Fig. 3:308, 322) and a process (Fig. 3:306, 332);

at least one input/output device (Fig. 1:126, 130, 134, 138);

a network (Fig. 1:118) that connects the plurality of systems and the at least one input/output device for communication (Spec., p. 7, ¶ [0017]); and

wherein the protocol stack comprises:

a first protocol layer (Fig. 3:310, 324) for interacting with a consumer (Spec., p. 9, ¶ [0021]);

a second protocol layer (Fig. 3:312, 326) for:

receiving a data exchange request from the first protocol layer (Spec., p. 15, ¶ [0033]);

examining the data exchange request to determine if an acknowledgement request is indicated (Spec., p. 15, ¶ [0034]);

sending a performance request corresponding to the data exchange request to a third protocol layer (Spec., p. 19, ¶¶ [0041]-[0042]); and

if the data exchange request contains the acknowledgement request, setting a variable in memory to wait for an event that corresponds to the completion of the performance request and sending an acknowledgement to the first protocol layer upon the occurrence of the event (Spec., p. 17, ¶ [0038]; p. 18, ¶ [0040]).

Independent claim 16 recites a method of acknowledging a data transfer, the method comprising:

transferring data according to a plurality of protocols (Spec., p. 8, ¶¶ [0019]-[0020]);

receiving a request for a data transfer according to a first protocol (Spec., p. 15, ¶ [0033]);

determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer (Spec., p. 15, ¶ [0034]);

sending a performance request corresponding to the request for data transfer according to a second protocol (Spec., p. 19, ¶¶ [0041]-[0042]); and

if the request for data transfer does contain a request for acknowledgement of completion of the data transfer, setting a variable in memory to wait for an event corresponding to completion of the data transfer and sending an acknowledgement to the first protocol upon the occurrence of the event (Spec., p. 17, ¶ [0038]; p. 18, ¶ [0040]).

Independent claim 22 recites an apparatus for acknowledging a data transfer, comprising:

means for receiving a request for a data transfer according to first protocol (Spec., p. 15, ¶ [0033]);

means for determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer according to a second protocol (Spec., p. 15, ¶ [0034]);

means for sending a performance request corresponding to the request for data transfer according to a third protocol (Spec., p. 19, ¶¶ [0041]-[0042]); and

means for setting a variable in memory to wait for an event to correspond to the completion of the performance request and sending an acknowledgement according to the first protocol upon the occurrence of the event if the request for the data transfer does contain the request for acknowledgement of completion of the data transfer (Spec., p. 17, ¶ [0038]; p. 18, ¶ [0040]).

Independent claim 23 recites a computer storage medium storing a program for acknowledging a data transfer, comprising:

code for performing a first protocol stored on the computer storage medium for generating a request for a data transfer; and

code for performing a second protocol stored on the computer storage medium for:

receiving the request for the data transfer from the first protocol (Spec., p. 15, ¶ [0033]);

determining whether the request for the data transfer contains a request for acknowledgement of completion of the data transfer (Spec., p. 15, ¶ [0034]);

sending a performance request corresponding to the request for data transfer to a third protocol (Spec., p. 19, ¶¶ [0041]-[0042]); and

setting a variable in memory to wait for an event to correspond to the completion of the performance request and sending an acknowledgement to the first protocol upon the occurrence of the event if the request for data transfer does contain a request for acknowledgement of completion of the data transfer (Spec., p. 17, ¶ [0038]; p. 18, ¶ [0040]).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL¹

- A. Claims 1-15 Rejected Under 35 U.S.C. § 112, ¶ 1.**
- B. Claims 1-15 and 23 Rejected Under 35 U.S.C. § 112, ¶ 2.**
- C. Claims 1-6, 8-18, and 20-23 Rejected Under 35 U.S.C. § 103(a) as Unpatentable Over U.S. Patent Application Publication No. 2004/0156393 (Gupta) in View of U.S. Patent Application Publication No. 2002/0199051 (Fukae).**
- D. Claims 7 and 19 Rejected Under 35 U.S.C. § 103(a) as Unpatentable Over Gupta in View of Fukae, and Further in View of U.S. Patent No. 6,675,200 (Cheriton).**

¹ The Advisory Action dated April 9, 2008 indicated that the rejection under 35 U.S.C. § 101 and the rejection under § 112, ¶ 2 of claim 23 made in the 11/28/2007 Office Action have been **withdrawn**.

VII. ARGUMENT

The claims do not stand or fall together. Instead, Appellant presents separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-headings as required by 37 C.F.R. § 41.37(c)(1)(vii).

A. Claims 1-15 Rejected Under 35 U.S.C. § 112, ¶ 1.

1. Claims 1-7.

Claims 1-7 were rejected under 35 U.S.C. § 112, ¶ 1 as not being enabled, based on the following assertion by the Examiner: a protocol is a set of rules governing the format of messages and such protocols “do not generate, send, or receive requests, nor do they determine what a request contains.” 11/28/2007 Office Action at 2. Moreover, the Examiner argued that a protocol “does not physically do anything; it is essentially a data structure.” *Id.*

Then the Examiner admitted that the “specification recites similar limitations to what is recited in the claims,” but according to the Examiner, “this does not adequately enable one of ordinary skill in the art to make and use the invention because protocols are being used to carry out process steps without elaboration as to how such steps can be carried out” *Id.* at 5-6.

Appellant respectfully disagrees that the Specification of the present application does not enable the claimed subject matter. Each of Figs. 2 and 3 of the Specification represents each of the different protocols as layers within respective protocol stacks. Such protocol layers do not merely just provide for a “set of rules,” but rather, such protocol layers performs various tasks as explained throughout the Specification. It is clear from the context of the Specification that “protocol” is used interchangeably with “protocol layer.” Thus, since the Specification has consistently used the term “protocol” to refer to a “protocol layer” that it is capable of

performing respective tasks of such protocols, a person of ordinary skill in the art would clearly have understood from the Specification what is meant by the protocols recited in the claims.

It is clear that the Specification would have enabled a person of ordinary skill in the art to practice the invention without undue experimentation. Clearly, a person of ordinary skill in the art looking to the teachings of the Specification would clearly have understood that a protocol layer is associated with functionality to enable the performance of the recited tasks. For example, ¶ [0020] of the Specification states that a “process protocol 202 . . . may comprise a process or application, which may interact with the protocol stack” Paragraph [0021] states that an application protocol 204 may interact with a protocol or a group of protocols. The same paragraph also notes that a datamover protocol 206 “may offload the tasks of data movement and placement from the application protocol 204.”

A person of ordinary skill in the art would clearly have understood that “protocol” or “protocol layer” as used in the present application would include functional elements to perform various described tasks.

The Examiner has failed to satisfy the Examiner’s burden to establish a reasonable basis to question the enablement provided for the claimed invention. Specifically, the Examiner has not provided any rationale regarding why a person of ordinary skill in the art would have to engage in undue experimentation to practice the invention.

In view of the foregoing, it is respectfully submitted that claim 1 and its dependent claims are enabled.

Reversal of the final rejection of the above claims is respectfully requested.

2. Claims 8-15.

Claim 8 was rejected on the same basis as claim 1. Specifically, the Examiner argued that a “protocol” is a set of rules governing the formatted messages that are exchanged between computers, and that protocols do not perform the recited tasks. However, this assertion by the Examiner basically ignores the specific claim language, which recites “protocol layer,” not just “protocol” as in claim 1.

In any event, for reasons similar to those given above with respect to claim 1, the Specification clearly enables the subject matter of claim 8 and its dependent claims.

Reversal of the final rejection of the above claims is respectfully requested.

B. Claims 1-15 and 23 Rejected Under 35 U.S.C. § 112, ¶ 2.

1. Claims 1-7.

Claims 1-15 were also rejected based on the assertion that a “protocol” is a set of rules that cannot perform the tasks recited in the claims. As explained above in connection with the § 112, ¶ 1 rejection, this assertion of the Examiner is clearly incorrect.

The Specification provides adequate support for use of the term “protocol” in the manner recited in the claims. Therefore, there is nothing indefinite about use of “protocol” as recited in the claims.

The Examiner also rejected claim 1 based on the Examiner’s assertion that the claim contains “intended use limitations.” 11/28/2007 Office Action at 7-8. Appellant respectfully disagrees with the Examiner’s assertion that the claim language in claim 1 recites “intended use limitations.” The elements identified by the Examiner appear in the body of the claim, not just in the preamble of the claim; as a result, the claim language specifically defines the elements appearing in the body of the claims. For example, in claim 1, the “receiving,” “determining,”

“sending,” and “setting” clauses of claim 1 specifically define the “second protocol” recited in claim 1.

Therefore, claim 1 and its dependent claims are clearly not indefinite.

Reversal of the final rejection of the above claims is respectfully requested.

2. Claims 8-15.

The Examiner’s rejection of claim 8 based on the Examiner’s assertion regarding “protocol” ignores the specific language of claim 8, which recites “protocol layer,” not just “protocol.” In any event, for reasons similar to those given above with respect to claim 1, use of “protocol layer” in claim 8 is clearly not indefinite. Moreover, the “intended use limitation” rejection of claim 8 is also not well-founded, as explained above in connection with claim 1.

Therefore, claims 8-15 are also not indefinite.

Reversal of the final rejection of the above claims is respectfully requested.

C. Claims 1-6, 8-18, and 20-23 Rejected Under 35 U.S.C. § 103(a) as Unpatentable Over U.S. Patent Application Publication No. 2004/0156393 (Gupta) in View of U.S. Patent Application Publication No. 2002/0199051 (Fukae).

1. Claims 1-6.

It is respectfully submitted that the obviousness rejection of claim 1 over Gupta and Fukae is defective.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine

reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Here, a comparison of the claimed subject matter with the hypothetical combination of Gupta and Fukae will reveal that the claimed subject matter differs significantly from the teachings of the cited references.

Independent claim 1 recites a second protocol for determining whether the request for data transfer from the first protocol contains a **request for acknowledgment of completion** of the data transfer, in combination with setting a variable in memory to wait for an event to correspond to the completion of the request for data transfer, if the request for data transfer does contain a **request for acknowledgment of the completion** of the data transfer. As purportedly disclosing the “determining” clause of claim 1, the Examiner cited ¶ [0063], lines 18-20, of Gupta. This cited passage of Gupta refers to receiving an acknowledgment of the last packet being received by a remote location, and sending a notification upon receiving such acknowledgment to other entities. However, it is noted that in ¶ [0063] of Gupta, a data transfer procedure involves sending packets of data and then receiving acknowledgments of such packets received by the remote location. There is absolutely no hint given anywhere in ¶ [0063] of Gupta, or anywhere else in Gupta, of “determining **whether** the request for the data transfer contains a **request for acknowledgment of completion** of the data transfer,” and then performing an action (in claim 1, setting a variable in memory to wait for an event) if the request is determined to contain such a **request for acknowledgment**.

Furthermore, Appellant respectfully asserts that Gupta also does not disclose or hint at setting a variable in memory to wait for an event to correspond to the completion of the request for data transfer and sending an acknowledgement to the first protocol upon the occurrence of

the event, if the request for data transfer contains a **request for acknowledgement of the completion** of the data transfer, as recited in claim 1

In the rejection, the Examiner improperly relied upon a theory of inherency for disclosure of the feature by the Gupta reference. It is respectfully submitted that the evidence must make clear that the missing descriptive matter is **necessarily** present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999). The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. *Id.* In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The Examiner, in presenting the inherency argument, bears the evidentiary burden and must adequately satisfy this burden. *See id.*

Appellant respectfully asserts that the Examiner has not provided a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic **necessarily** flows from the teachings of Gupta and, as such, has not supported the burden of proof for inherency. Indeed, the Examiner relies solely on the conclusory statement that “a variable is inherently set in memory that corresponds to the completion of the request otherwise it would not be aware when the last acknowledgement is received.” 11/28/2007 Office Action at 12. However, this is clearly not sufficient and Gupta clearly does not disclose or hint at the recited feature expressly, implicitly or otherwise.

Even more fundamentally, it is noted that Gupta clearly provides no hint whatsoever of setting a variable in memory to wait for an event to correspond to the completion of the request

for data transfer, **if the request for data transfer does contain a request for acknowledgment.**

As explained above, Gupta provides no hint whatsoever of any such request for acknowledgment. Therefore, Gupta would not provide any hint of setting a variable in memory based on such request for acknowledgment.

In view of the foregoing incorrect assertions made by the Examiner, it is respectfully submitted that the obviousness rejection of claim 1 is defective for at least the reason that even if Gupta and Fukae could be hypothetically combined, the hypothetical combination would clearly have not led to the claimed subject matter. It is noted that Fukae fails to disclose or hint at the “determining” clause of claim 1, or the “setting” clause of claim 1.

Moreover, it is respectfully submitted that a person of ordinary skill in the art would not have been prompted to combine the teachings of Gupta and Fukae to achieve the claimed subject matter. As discussed above, Gupta relates to a data transfer procedure where data packets are sent and acknowledgments of such packets are received. There is absolutely no hint of any desirability to incorporate determining whether the request for data transfer contains a request for acknowledgment of completion of the data transfer, and then setting a variable in memory based on such request for acknowledgment. Fukae is directed to a transmitting and receiving circuit that includes an optical circuit for transmitting and receiving data from and to a facing node, and a speed negotiation state machine for executing a speed negotiation to find a maximum value of a data transfer speed in a channel between nodes. Fukae, Abstract. There is absolutely no hint whatsoever in Fukae of determining whether a request for data transfer contains a request for acknowledgment of completion of the data transfer. Therefore, a person of ordinary skill in the art would not have been led to combine the teachings of Gupta and Fukae to achieve the claimed subject matter.

In view of the foregoing, the obviousness rejection of claim 1 and its dependent claims is clearly erroneous.

Reversal of the final rejection of the above claims is respectfully requested.

2. Claims 8-15.

Independent claim 8 recites a plurality of systems, where at least one of the plurality of systems comprises a protocol stack and a process. Moreover, claim 8 recites that the protocol stack includes a first protocol layer for interacting with a consumer, and a second protocol layer for receiving a data exchange request from the first protocol layer, **examining the data exchange request for determining if an acknowledgment request is indicated, and if the data exchange request contains the acknowledgment request**, setting a variable in memory to wait for an event that corresponds to the completion of the performance request.

Claim 8 and its dependent claims are allowable over Gupta and Fukae for reasons similar to those stated above with respect to claim 1.

Reversal of the final rejection of the above claims is respectfully requested.

3. Claims 16-18, 20-23.

Independent claim 16 was also rejected as being obvious over Gupta and Fukae. Claim 16 recites determining **whether** a request for a data transfer according to a first protocol contains **a request for acknowledgment** of completion of the data transfer, and if the request for data transfer does contain a **request for acknowledgment** of completion of the data transfer, setting a variable in memory to wait for an event corresponding to completion of the data transfer.

For similar reasons as stated above with respect to claim 1, the obviousness rejection of claim 16 and its dependent claims is also defective.

Independent claims 22 and 23 are also similarly allowable.

Reversal of the final rejection of the above claims is respectfully requested.

D. Claims 7 and 19 Rejected Under 35 U.S.C. § 103(a) as Unpatentable Over Gupta in View of Fukae, and Further in View of U.S. Patent No. 6,675,200 (Cheriton).

1. Claims 7, 19.

In view of the allowability of base claims over Gupta and Fukae, it is respectfully submitted that the obviousness rejection of dependent claims 7 and 19 over Gupta, Fukae, and Cheriton has also been overcome.

Reversal of the final rejection of the above claims is respectfully requested.

CONCLUSION

In view of the foregoing, reversal of all final rejections and allowance of all pending claims is respectfully requested.

Respectfully submitted,

Date: _____

6/30/2008



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VIII. APPENDIX OF APPEALED CLAIMS

The claims on appeal are:

- 1 1. An apparatus for acknowledging a data transfer, comprising:
2 a processor configured to transfer data according to a plurality of protocols of a protocol
3 stack comprising:
4 a first protocol for initiating a request for a data transfer; and
5 a second protocol for:
6 receiving the request for the data transfer from the first protocol;
7 determining whether the request for the data transfer contains a request for
8 acknowledgement of completion of the data transfer;
9 sending a performance request corresponding to the request for data transfer to a
10 third protocol; and
11 if the request for data transfer does contain a request for acknowledgement of the
12 completion of the data transfer, setting a variable in memory to wait for an
13 event to correspond to the completion of the request for data transfer and
14 sending an acknowledgement to the first protocol upon the occurrence of
15 the event.
- 1 2. The apparatus set forth in claim 1, wherein the first protocol is an internet small
2 computer systems interface ("iSCSI") protocol.
- 1 3. The apparatus set forth in claim 1, wherein the second protocol is an internet small
2 computer systems interface extensions for remote direct memory access ("iSER") protocol.
- 1 4. The apparatus set forth in claim 1, wherein the request for the data transfer
2 comprises an attribute that indicates the request for acknowledgement of completion of the data
3 transfer.

1 5. The apparatus set forth in claim 4, wherein a value of an error recovery level is
2 notified to the second protocol from the first protocol.

1 6. The apparatus set forth in claim 1, wherein the third protocol is a remote direct
2 memory access (“RDMA”) protocol.

1 7. The apparatus set forth in claim 1, wherein the event relates to a zero length
2 remote direct memory access (“RDMA”) read completion.

1 8. A network, comprising:
2 a plurality of systems, at least one of the plurality of systems comprising a protocol stack
3 and a process;
4 at least one input/output device;
5 a network that connects the plurality of systems and the at least one input/output device
6 for communication; and
7 wherein the protocol stack comprises:
8 a first protocol layer for interacting with a consumer;
9 a second protocol layer for:
10 receiving a data exchange request from the first protocol layer;
11 examining the data exchange request to determine if an acknowledgement request
12 is indicated;
13 sending a performance request corresponding to the data exchange request to a
14 third protocol layer; and
15 if the data exchange request contains the acknowledgement request, setting a
16 variable in memory to wait for an event that corresponds to the completion
17 of the performance request and sending an acknowledgement to the first
18 protocol layer upon the occurrence of the event.

1 9. The network set forth in claim 8, wherein the third protocol layer interacts with
2 the second protocol layer and the third layer is for:
3 receiving the performance request that corresponds to the data exchange request;
4 and
5 transmitting a message to one of the at least one of the plurality of systems and
6 the at least one input/output device via the network.

1 10. The network set forth in claim 9, comprising a remote direct memory access
2 network interface card (“RNIC”) that is used by the protocol stack to exchange the message
3 between the at least one of the plurality of systems and the at least one input/output device via
4 the network.

1 11. The network set forth in claim 9, wherein the message is a remote direct memory
2 access (“RDMA”) write message.

1 12. The network set forth in claim 9, wherein the message is a zero length remote
2 direct memory access (“RDMA”) read message.

1 13. The network set forth in claim 8, wherein the second protocol layer is an internet
2 small computer systems interface extensions for remote direct memory access (“iSER”) protocol.

1 14. The network set forth in claim 8, wherein the data exchange request comprises an
2 attribute and data.

1 15. The network set forth in claim 8, wherein the process operates according to a
2 small computer systems interface protocol (“SCSI”).

1 16. A method of acknowledging a data transfer, the method comprising:
2 transferring data according to a plurality of protocols;
3 receiving a request for a data transfer according to a first protocol;
4 determining whether the request for the data transfer contains a request for
5 acknowledgement of completion of the data transfer;
6 sending a performance request corresponding to the request for data transfer according to
7 a second protocol; and
8 if the request for data transfer does contain a request for acknowledgement of completion
9 of the data transfer, setting a variable in memory to wait for an event
10 corresponding to completion of the data transfer and sending an
11 acknowledgement to the first protocol upon the occurrence of the event.

1 17. The method set forth in claim 16, comprising defining the first protocol as an
2 internet small computer systems interface (“iSCSI”) protocol.

1 18. The method set forth in claim 16, comprising defining the second protocol as a
2 remote direct memory access (“RDMA”) protocol.

1 19. The method set forth in claim 16, comprising defining the event to relate to a zero
2 length remote direct memory access (“RDMA”) read message completion.

1 20. The method set forth in claim 16, comprising defining the event to relate to a
2 remote direct memory access (“RDMA”) write message completion.

1 21. The method set forth in claim 16, comprising establishing an error recovery level
2 by the first protocol to indicate the error recovery level in the request for acknowledgement of
3 completion of the data transfer.

1 22. An apparatus for acknowledging a data transfer, comprising:
2 means for receiving a request for a data transfer according to first protocol;
3 means for determining whether the request for the data transfer contains a request for
4 acknowledgement of completion of the data transfer according to a second
5 protocol;
6 means for sending a performance request corresponding to the request for data transfer
7 according to a third protocol; and
8 means for setting a variable in memory to wait for an event to correspond to the
9 completion of the performance request and sending an acknowledgement
10 according to the first protocol upon the occurrence of the event if the request for
11 the data transfer does contain the request for acknowledgement of completion of
12 the data transfer.

1 23. A computer storage medium storing a program for acknowledging a data transfer,
2 comprising:
3 code for performing a first protocol stored on the computer storage medium for generating
4 a request for a data transfer; and
5 code for performing a second protocol stored on the computer storage medium for:
6 receiving the request for the data transfer from the first protocol;
7 determining whether the request for the data transfer contains a request for
8 acknowledgement of completion of the data transfer;
9 sending a performance request corresponding to the request for data transfer to a third
10 protocol; and
11 setting a variable in memory to wait for an event to correspond to the completion of the
12 performance request and sending an acknowledgement to the first protocol upon
13 the occurrence of the event if the request for data transfer does contain a request
14 for acknowledgement of completion of the data transfer.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.